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10/664,263	09/16/2003	Thomas L. Cantor	532212002000	3408

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EXAMINER	
VENCI, DAVID J	
ART UNIT	PAPER NUMBER
1641	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/664,263	CANTOR, THOMAS L.	
	Examiner	Art Unit	
	David J. Venci	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *January 29, 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31,34 and 36-65* is/are pending in the application.

4a) Of the above claim(s) *1-26,34,37 and 41-65* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *27-31,36 and 38-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-31,34 and 36-65* are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Newly submitted claim 65 is directed to an invention that is independent or distinct from the invention originally claimed and examined (*i.e.*, Invention II). Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-26, drawn to a method of "deciding" in view of an "antibody" that interferes with utility, classified in class 435/7.4, for example.

II. Claims 27-31, 34 and 46-40, drawn to a method of "basing therapeutic decisions" in view of an assessed "auto antibody" against a "natural substance", classified in class 436/506, for example.

III. Claims 41-50, drawn to a method of "deciding" in view of a "therapeutic inactivating component" that interferes with utility, classified in class 424/9.2, for example.

IV. Claims 51-55, drawn to a kit comprising a "means for assessing therapeutic inactivating component", classified somewhere in class 600, for example.

V. Claims 56-57, drawn to a kit comprising a "therapeutic agent", classified somewhere in class 514, for example.

VI. Claims 58-64, drawn to a method of "deciding" in view of a "hormone", classified in class 424/158.1, for example.

VII. Claim 65, drawn to a method of "basing therapeutic decisions" in view of a therapeutic agent having an antagonistic biological effect, classified in class 436/517, for example.

The inventions are distinct, each from the other because of the following reasons:

Inventions I, II, III, VI and VII are related processes. Related processes are distinct from each other if the processes, as claimed, are not: (1) capable of use together or have a materially different design, mode of operation, function, or effect; (2) overlapping in scope, i.e., are mutually exclusive; and (3) obvious variants. See MPEP § 806.05(j).

Here, Inventions I, II, III, VI and VII have different modes of operations because Inventions I requires a step of "deciding" in the context of an "antibody" that interferes with utility, while Invention II requires a step of "basing therapeutic decisions" in the context of an assessed "auto antibody" against a "natural substance", while Invention III requires a step of "deciding" in the context of a "therapeutic inactivating component" that interferes with utility, while Invention VI requires a step of "deciding" in the context of a "hormone", while Invention VII requires a step of "basing therapeutic decisions" in the context of a therapeutic agent having an antagonistic biological effect.

The scopes of Inventions I, II, III, VI and VII do not appear to overlap in scope, and are not obvious variants because the step of "deciding" or "basing therapeutic decisions" in each of Inventions I, II, III, VI and VII have different input parameters and logic structures. In addition, there is no indication on the record of a specific example of a single process that infringes two or more of Inventions I, II, III, VI and VII. Furthermore, there is no indication on the record that the Inventions would have been obvious variants over each other within the meaning of 35 U.S.C. 103(a).

Inventions IV and V are unrelated. Inventions are unrelated if the inventions are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions have different designs because Invention IV requires a "means for assessing therapeutic inactivating capacity", while Invention V requires a "therapeutic agent".

Inventions (I, II, III, VI and VII) and (IV or V) are related as processes of using products. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the products of Inventions IV and V can be used in materially different processes, such as a diagnostic method or treatment method.

This application contains claims directed to the following patentably distinct species:

1. Select ONE therapeutic/medical condition from:

   a. Pain management; (claims 5 and 6)
   b. Antipyretic; (claim 5)
   c. Migraine; (claims 5 and 6)
   d. Prophylaxis; (claim 5)
   e. Anti-infective/infection; (claims 5 and 6)
   f. Anti-inflammatory/inflammation; (claims 5 and 6)
   g. Anti-parasitic;
   h. Uterine;
   i. Anti-microbial;
   j. Anti-arthritic/arthritic related condition; (claims 5 and 6)
   k. Gout; (claim 5)
   l. Cardiovascular; (claims 5 and 6)
   m. Cancer; (claims 5 and 6)
   n. Immunomodulation; (claim 5)
   o. Metabolic; (claims 5 and 6)
   p. Musculoskeletal; (claims 5 and 6)
   q. Anti-toxicity; (claim 5)
   r. Dermatologic; (claims 5 and 6)
   s. Ophthalmic; (claims 5 and 6)
   t. Otic; (claims 5 and 6)
   u. Pharyngeal; (claims 5 and 6)
   v. Nasal; (claims 5 and 6)
   w. HIV/AIDS; (claims 5 and 6)
   x. Allergy/asthma; (claims 5 and 6)
   y. Alzheimer's; (claims 5 and 6)
   z. Diabetes; (claims 5 and 6)
   aa. Glandular disorder; (claims 5 and 6)
   bb. Kidney disease; (claims 5 and 6)
   cc. Liver disease; (claims 5 and 6)
   dd. Mental health; (claims 5 and 6)
   ee. Osteoporosis; (claims 5 and 6)
   ff. Parkinson's; (claims 5 and 6)
   gg. Renal bone disease; (claims 5 and 6)
   hh. Parathyroid gland disorders; (claim 5)
   ii. STD; (claims 5 and 6)
   jj. Stroke; (claims 5 and 6)
   kk. Blood/circulatory; (claims 5 and 6)
   ll. Endocrine; (claims 5 and 6)
   mm. Gastrointestinal; (claims 5 and 6)
   nn. Neurological; (claims 5 and 6)
   oo. Respiratory; (claims 5 and 6)
   pp. Urinary; (claim 6)
   qq. OB/GYN; (claim 6)

rr. Foot related condition; (claim 6)
ss. Immunological related condition; (claim 6)
tt. Toxicity related condition; (claim 6)
uu. Child specific condition; (claim 6)
vv. Small molecule; (claims 14 and 42) OR
ww. Biomolecule. (claim 14)

2. Select ONE drug from:

a. ONE "therapeutic agent" selected from Table 2; (claims 4, 29 and 53)
b. Erythropoietin/erythropoietin analog; (claims 15, 24, 38, 59 and 62)
c. Atorvastatin (claim 21);
d. Epoetin alpha (claim 21);
e. Paricalcitol (claim 21);
f. Risperidone (claim 21);
g. Calcimemetic (claim 21);
h. Furosemide (claim 21);
i. Bisphosphanate (claim 21);
j. Teriparatide (claim 21); OR
k. Parathyroid hormone (claim 34).

The species are independent or distinct because each specie member does not have a common property, activity, and do not share a common structural feature, i.e., a significant structural element is not shared by all of the alternatives.

Examination burden is established because the scope of prior art search required for each Invention does not appear coextensive. For example, a search for the "therapeutic inactivating capacity" of Invention I requires a search of prior art related to livers, while a search for the "assessed auto antibody" of Invention II requires a search of prior art related to immunity, while a search for "therapeutic inactivating component" of Invention III requires a search of prior art related to pharmacokinetics, while a search for "hormone" of Invention VI requires a search of prior art related to the endocrinology, while a search for the antagonism of Invention VII requires a search of prior art related to receptor-binding kinetics.

As indicated, *supra*, restriction for examination purposes is proper because the inventions are distinct and require separate, non-coextensive searches of the prior art.

Applicant has already received an action on the merits for the originally presented invention corresponding to Invention II, *supra*. Invention II is constructively elected by original presentation for prosecution on the merits.

Claims 1-26 and 41-65 remain withdrawn from consideration as being directed to non-elected inventions. See 37 CFR 1.142(b) and MPEP § 821.03. Claims 34 and 37 remain withdrawn from further consideration, 37 CFR 1.142(b), as being drawn to non-elected species.

Currently, claims 27-31, 36 and 38-40 are under examination.

Specification

The disclosure is objected to because of the following informalities:

In paragraph [0063], the quoted term "'recognizes'" is indefinite. Whether/how the information contained therein departs or digresses from the plain meaning of the term "recognizes" is not clear.

In paragraph [0065]:

The second sentence reference to "[t]he specificity" appears repugnant to the general definition of "specifically binds" set forth in paragraph [0059].

The third sentence exclusion of "inhibition" and "adverse biological reaction" from the definition of "therapeutic inactivating component" appears repugnant to the general definition of "therapeutic inactivating component" as set forth in paragraph [0052].

In the fourth sentence, the object "a selection" is indefinite. The identity of one or more objects and/or steps required for "a selection" is not clear.

In the fifth sentence, the modifier "relevant" with respect to "therapeutic inactivating components" is indefinite. The identity of one or more objects and/or steps required for a "relevant" therapeutic inactivating components is not clear.

The third sentence expansion of the definition of "therapeutic inactivating component" to add entities "that affect the biological activity" appears repugnant to the general definition of "therapeutic inactivating component" as set forth in paragraph [0052].

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 27-31, 36 and 38-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 27:

Claim 27 appears incomplete and appears to omit essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. Specifically, the preamble recites a method of "guiding" decisions, while final step c) recites the step of "basing" decisions. Whether/how the mere step of "basing" amounts to a method of "guiding" decisions is not clear. The method steps related to "guiding" appear omitted from the body of claim 27. In addition, the identity of input parameters and logic structures required for both "basing" and "guiding" is not clear.

The preamble phrase "said auto antibody production" lacks antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 27-28, 30, 31, 36, 39 and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Conti-Fine (US 6,759,385).

Conti-Fine describes a method guiding therapeutic decisions for a subject afflicted with an antibody specific for a natural substance, wherein said antibody resulted from therapeutic administration of the natural substance (see *e.g.*, col. 6, lines 61-63, "an antibody-mediated disease that is associated with the administration of an endogenous protein"; *see also*, col. 24, lines 12-15, "the animal is contacted with a particular peptide, or a plurality of peptides"), the method comprising the steps of:

(a)(b) assessing a subject for the presence of said auto antibody against said natural substance (see *e.g.*, col. 24, lines 21-23, "the amount of antibody specific for the antigen obtained at time periods before immunization and after immunization");

c) deciding to initiate administration of the natural substance (see *e.g.*, col. 7, lines 43-48, "the mammal is subjected to exogenous introduction of the protein... an amount of an epitope peptide... or a combination thereof"; *see also*, col. 38, lines 40-45, "Administration of the

therapeutic agents in accordance with the present invention may be continuous or intermittent, depending, for example, upon[...] factors known to skilled practitioners") (paraphrasing mine).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 29 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conti-Fine (US 6,759,385) in view of Bunn, 346 N. ENGL. J. MED. 522 (2002).

Conti-Fine describes a method for determining a therapeutic protocol as substantially described, *supra*, and incorporated herein.

Conti-Fine does not teach a method incorporating "erythropoietin".

However, Bunn describes a method of deciding to initiate or terminate administration of "erythropoietin" (see p. 522, left column, third paragraph, first sentence, "[t]he article by Casadevall et al. in this issue of the Journal") based on an assessed autoantibody (see p. 522, left column, third paragraph, second sentence, "immune response to epoietin") against both endogenous erythropoietin and recombinant erythropoietin (see p. 522, right column, second paragraph, second sentence, "the antibody must react not only with epoietin but also with the small amount of endogenous erythropoietin").

It would have been obvious for a person of ordinary skill in the art to apply the method of determining a therapeutic protocol, as described by Conti-Fine, to erythropoietin because, according to Bunn, "about 3 million patients worldwide are being treated with epoetin" and because "[t]he clinical picture of rapidly

developing transfusion-dependent anemia is so dramatic that such cases are unlikely to escape attention" (see paragraph bridging pp. 522-523).

Response to Arguments

In prior Office Action, claims 27-28, 30, 31, 36, 39 and 40 were rejected under 35 U.S.C. 102(e) as being anticipated by Conti-Fine (US 6,759,385). In addition, claims 29 and 38 were rejected under 35 U.S.C. 103(a) as being unpatentable over Conti-Fine (US 6,759,385) in view of Bunn, 346 N. ENGL. J. MED. 522 (2002).

In response, Applicant argues:

1. Conti-Fine is deficient in several step limitations recited in independent claim 27.
2. Bunn provides no motivation to perform the method of Conti-Fine

Applicant's arguments have been carefully considered but are not persuasive.

With respect to 1), Conti-Fine describes a method incorporating a step of assessing a subject for the presence of an antibody against a natural substance (see *e.g.*, col. 24, lines 21-23, "the amount of antibody specific for the antigen obtained at time periods before immunization and after immunization"). Conti-Fine performs her method in the context of a clinical decision-making process involving the *in vivo* administration of a natural substance (see *e.g.*, col. 7, lines 43-48, "the mammal is subjected to exogenous introduction of the protein... an amount of an epitope peptide... or a combination thereof"; *see also*, col. 38, lines 40-45, "Administration of the therapeutic agents in accordance with the present invention may be continuous or intermittent, depending, for example, upon[...] factors known to skilled practitioners") (paraphrasing mine).

With respect to 2), according to M.P.E.P. § 716.01(c), Applicant must factually support any objective evidence with an appropriate affidavit or declaration to be of probative value. As such, Examiner requests Applicant to provide such an affidavit or declaration that, at the very minimal, addresses the

objective bases for Applicant's belief that Bunn provides no motivation to perform the method of Conti-Fine.[1]

[1] Examiner acknowledges Applicant's acknowledgement of Bunn's acknowledgement that "the incidence of drug-induced erythroid aplasia is remarkably low". Nevertheless, as evidenced by Bunn and Casadevall et *al.*, 346 New Engl. J. Med. 469 (2002), the prior and current state of the art appears to remain keenly interested and highly motivated to pursue Conti-Fine's line of scientific inquiry into antibodies against erythropoietin.

Conclusion

No claims are allowable at this time.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Venci whose telephone number is 571-272-2879. The examiner can normally be reached on 08:00 - 16:30 (EST). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

David J Venci
Examiner
Art Unit 1641

djv

LONG V. LE 04/23/07
SUPERVISORY PATENT EXAMINER
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